

## REMARKS

**Office action summary.** Claims 22-29 are pending in the application. Claims 22-29 are rejected as anticipated by U.S. Patent No. 5,932,113 ("Kurdi"). Claims 22-29 are also rejected as obvious over Kurdi in view of U.S. Patent No. 5,516,430 ("Hussinger").

These rejections are believed to be overcome by the amendments herein.

**Claim amendments.** Claims 22 and 29 are amended. Support for the amendment to claim 22 is found in paragraphs [0053] and [0054] of the application. Claim 29 has been amended to correct an obvious error. New claim 32 is supported by paragraph [0044]. New claim 33 is supported by originally filed claim 19 and by paragraph [0077]. New claim 34 is supported by paragraph [0076] of the application, particularly by the language "the material may vary from a silicate-like to a more siloxane-like material" (both silicates and siloxanes, as is well known, are oxygen-containing).

**Anticipation rejection.** The Examiner's anticipation rejection of claim 22 is not well taken because the Kurdi disclosure of silicon-based encapsulants is of a particular class of silicon-containing polymers, "curable acrylates such as those comprising . . . silicones." Col. 6, line 60.<sup>1</sup> What the present applicants have discovered is that within the broad class of silicon-based polymers, there are some which are readily debondable. It is those readily debondable silicon-based polymers which are being claimed in claim 22 and claims dependent on it. There is no evidence indicating that curable acrylates, such as those comprising silicones, would fall within that class. What is more, inventors' experience with the Kurdi acrylate-based encapsulants, as explained in paragraph [0007] of this application, was that they did not debond well.

The anticipation rejection of claims 23-29 is overcome by amendment because those claims are dependent on claim 22.

The new dependent claims further distinguish the invention over the prior art. New claim 32 includes a limitation the "solid encapsulant does not substantially outgas under vacuum or the solid encapsulant is mechanically stable for thermal cycling." New claim 32 is not anticipated

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<sup>1</sup> The disclosures of Kurdi with respect to use of silicone *adhesives* are not relevant to *encapsulants* as claimed in the pending claims. Both Kurdi and the present application distinguish adhesives (whose purpose is attachment) from encapsulants (whose purpose is to fill gaps or recesses, although they may also to some extent adhere). Claim 22 has been amended to make it clearer that the encapsulant is an encapsulant, not an adhesive.

by Kurdi, as Kurdi does not disclose the invention of that claim where the solid encapsulant does not substantially outgas under vacuum or the solid encapsulant is mechanically stable for thermal cycling. New claim 33 distinguishes over Kurdi because there is no teaching in Kurdi that the silicon-based polymer is polymerized from organosilicon precursors after being dispensed to fill gaps or recesses (i.e., in situ). New claim 34 distinguishes over Kurdi because Kurdi only teaches acrylates also comprising silicones, and not encapsulants consisting essentially of a silicon-based polymer.

**Obviousness rejection.** As amended, claim 22 is patentable over Kurdi, also in view of Hussinger, since Hussinger does cure the deficiency in Kurdi, i.e., it does not teach a person of skill in the art how to find a *readily* debondable silicon-based encapsulant (indeed, Hussinger does not mention silicon-based polymers at all). Accordingly, Kurdi and Hussinger do not render obvious claim 22 and dependent claims 23-29 that follow from it, nor do they render obvious new claims 32-34, since Hussinger does not cure the deficiencies in Kurdi with respect to the added limitations of those claims.

#### CONCLUSION

As a result of the amendments, the presently pending claims are believed to be allowable. If the Examiner has any questions concerning this response to the outstanding Office Action and the amended claims provided, he is welcome to contact the undersigned attorney at (650) 251-7712.

Respectfully submitted,

By:



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